

**PATENT
APPLICATION NO 10/673,234****REMARKS**

Claims 21-33 are pending in the present application. By this Amendment, Applicants have amended claims 21, 23, 25, 28-30 and 32. Applicants respectfully submit that no new matter was added by this Amendment. Accordingly, claims 21-33 are at issue.

A. Drawings

The drawings have been objected to in the Office Action under 37 CFR 1.83(a) for failing to show the "binary processor" of claim 23 and the "means for producing a binary output" of claim 30. Claims 23 and 30 have been amended to remove the term "binary". Applicants contend that the changes to claims 23 and 30 alleviate the need to amend the drawings.

B. Claim Objections

In the Office Action, claims 23, 25, 30, 32, and 33 are objected to due to a number of informalities.

Claim 23 has been amended to remove the term "binary", thus alleviating the antecedent basis objection.

Claim 25 has been amended to change the word "the" to "a", thus alleviating the antecedent basis objection.

Claim 30 has been amended to replace the word "binary" with the word "digital", thus alleviating the antecedent basis objection.

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Claim 32 has been amended to change its dependency from claim 19 to claim 31, thus alleviating the antecedent basis objection.

Claim 33 is objected to as being dependent upon object base claim 32. As mentioned above, claim 32 has been amended to address the objection.

C. Claim Rejections Under 35 U.S.C § 112 Second Paragraph

Claims 23, and 29-33 are rejected under 35 USC § 112, second paragraph as being incomplete for omitting essential structural cooperative relationships between elements. Claim 23 has been amended to remove the term "binary", clarifying that the processor is the processor in the second line of independent claim 21 upon which claim 23 depends. This amendment should resolve the confusion as to the relationship between the elements of the claim.

Claim 29 has been amended to more succinctly describe the relationship between the processor and the temperature. With this amendment, the issues that are cited in this rejection should be resolved.

Claims 30-33 have been rejected for being based upon rejected base claim 29. The rejection of claim 29 under 35 USC § 112, second paragraph has been resolved with the amendment discussed above, and therefore resolving the issues for claims 30-33.

D. Double Patenting

The Office Action has rejected claims 21-33 under the judicially created doctrine of obviousness-type double patenting in view of US Patent 6,679,628. Applicants submit the attached Terminal Disclaimer with the present Amendment, and contend that this Terminal Disclaimer will overcome this rejection.

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Claims 29 has been further rejected in the Office Action under 35 USC § 101 as being the same invention as claim 1 of US Patent 6,679,628. Applicants respectfully traverse this rejection because the claim language is different between the two claims, as is the scope of the claims. Claim 29 claims a processor unit. This is a broader term than the Programmable Logic Controller (PLC) of claim 1 in US Patent 6,679,628. A PLC is a term well known in the art for a specialized computer used in factory automation. A processor is "Processor 312 is any controller, CPU, circuit, or logic device". The terms are different, so the claims are distinct, and the applicant requests that the rejection under 35 USC § 101 be removed.

E. Rejection Under 35 U.S.C § 102 (b) and 35 U.S.C § 103 (a)

In the Office Action, claims 28 and 29 are rejected under the 35 USC § 102 (b) as being anticipated by Audy (US Patent 5,195,827). Claims 21, 28, and 29 are further rejected as being unpatentable over Thomson (US Patent 6,554,469) in view of Audy (US Patent 5,195,827). Applicants respectfully traverse these rejections.

Audy discusses "[u]sing three sequential excitations, an accurate temperature reading can be obtained..." (Abstract). However, Audy does not disclose the use of only two measurements to determine a temperature. Claims 21, 28, and 29 require that "...a temperature proximate to the diode [be determined] based on the first and second digital measures". Audy does not discuss the determination of the temperature based upon the first and second digital measures. Instead, Audy determines the temperature according to a complicated formula that utilizes three measurements. The present invention claims a simpler, less expensive solution to the temperature determination problem.

In Thomson "[t]he temperature of the transistor is calculated based on the values of the four driving currents and the four measured base-emitter voltages." (Abstract) However, Thomson does not disclose or suggest the calculation of the temperature from two measurements as

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required by claims 21, 28 and 29. Instead, Thomson requires even more measurements than Audy to determine the temperature.

To further clarify this distinction, Applicants have modified claims 21, 28 and 29 to further specify that "no other measurements" beyond the first and second measures are taken to determine the temperature.

Since neither Audy nor Thomson list nor suggest each and every limitation from either claims 21, 28 or 29, there can be no anticipation or obviousness.

Therefore, Applicants request that the rejections under 35 USC § 102 (b) and 35 USC § 103 be removed because neither Thompson nor Audy, individually or in combination, described each and every limitation of claims 21, 28, or 29.

F. Allowable Subject Matter

The Examiner has indicated in the Office Action that Claims 22, 24-27, and 31-33 are objected to as being dependant upon a rejected base claim, but would be allowable if rewritten in independent form (provided that other objections above are addressed). Applicant would like to thank the Examiner for the allowance of these claims.

G. Miscellaneous

Claim 29 is amended to rearrange the words to more clearly describe and distinctly claim Applicants' invention. No new matter is added.

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In view of the foregoing Amendment and Remarks, Applicants respectfully submit that claims 21-33 claim matter that is distinct from the prior art and request that the objections and rejections be withdrawn. With the submission of this Amendment, this application is in condition for further examination and early consideration of the claims at issue and early allowance is hereby requested. The Commissioner is authorized to charge any additional fees or credit any overpayments associated with this Amendment to Deposit Account 19-2875 (SAA-65-1). Applicants further invite the Examiner to contact the undersigned representative at the telephone number below to discuss any matters pertaining to the present Application.

Respectfully submitted,

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